UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,182	09/09/2003	Jay C. Brinkmeyer	200303934-3	3338

7590   12/19/2006

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EXAMINER
MYINT, DENNIS Y

ART UNIT	PAPER NUMBER
2162	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/19/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

	Application No.	Applicant(s)
Office Action Summary	10/658,182	BRINKMEYER, JAY C.
	Examiner	Art Unit
	Dennis Myint	2162

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>09/09/2003</u>.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>*18 and 26-47*</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>*18 and 26-47*</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>*09 September 2003*</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

    1.☐ Certified copies of the priority documents have been received.

    2.☐ Certified copies of the priority documents have been received in Application No. _____.

    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   This communication is responsive to Applicant's Amendment, filed on 03

November 2006.

2.   Claims 18, 26-47 are pending in this application. Claims 18, 26, and 37 are

independent claims. In the Amendment filed on 03 November 2006, claims 18, 26, and

37 were amended. This office action is made final.

3.   In view of the terminal disclaimer filed, rejection of all pending claims under the

judicially created doctrine of obviousness-type double patenting is hereby withdrawn.

Response to Arguments

4.   Applicant's arguments filed on 03 November 2006 have been fully considered but

are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 101

5.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

6.   Claims 18, 26-47 are rejected under 35 U.S.C. 101 because the claimed

invention is directed to non-statutory subject matter.

MPEP 2106 (IV)(C)(2)((B))((2))(a) and (b) states that :

For an invention to be "useful" it must satisfy the utility requirement of section 101. The USPTO's official interpretation of the utility requirement provides that the utility of an invention has to be (i) specific, (ii) substantial and (iii) credible. MPEP § 2107 and Fisher, 421 F.3d at 1372, 76 USPQ2d at 1230 (citing the Utility Guidelines with approval for interpretation of "specific" and "substantial"). In addition, when the examiner has reason to believe that the claim is not for a practical application that produces a useful result, the claim should be rejected, thus requiring the applicant to distinguish the claim from the three 35 U.S.C. 101 judicial exceptions to patentable subject matter by specifically reciting in the claim the practical application. In such cases, statements in the specification describing a practical application may not be sufficient to satisfy the requirements for section 101 with respect to the claimed invention. Likewise, a claim that can be read so broadly as to include statutory and nonstatutory subject matter must be amended to limit the claim to a practical application. In other words, if the specification discloses a practical application of a section 101 judicial exception, but the claim is broader than the disclosure such that it does not require a practical application, then the claim must be rejected.

The tangible requirement does not necessarily mean that a claim must either be tied to a particular machine or apparatus or must operate to change articles or materials to a different state or thing. However, the tangible requirement does require that the claim must recite more than a 35 U.S.C. 101 judicial exception, in that the process claim must set forth a practical application of that judicial exception to produce a real-world result.

Independent claims 18, 26, and 37 are rejected under 35 U.S.C. 101 because The claims lack the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101. They are clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be a composition of matter. As such, they fail to fall within a statutory category. They are, at best, functional descriptive material *per se*.

Any dependent claims which depend on said independent claims 18, 26, and 37, are hereby rejected under 35 U.S.C. 101 because of their dependency on said independent claims.

Claim Rejections - 35 USC § 112

7.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

8.   Claim 18, 26-47 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

9.   Independent claims 18, 26, and 37 are rejected under the second paragraph of

U.S.C. 112 because claim 18 in lines 6-7, claim 26 in lines 7-8 and claim 37 in lines 6-7

all recite the limitation *"the data structure of a computer system"*. There is insufficient

antecedent basis for this limitation in the claim.

Any dependent claims which depend on said independent claims 18, 26, and 37,

are hereby rejected under the second paragraph of 35 U.S.C. 112 because of their

dependency on said independent claims.

Claim Rejections - 35 USC § 103

10.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art
> are such that the subject matter as a whole would have been obvious at the time the invention was made to
> a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be
> negatived by the manner in which the invention was made.

11.   Claim 18, 26-28, 30-32, 35-39, 41-43, 46, and 47 are rejected under 35

U.S.C. 103(a) as being unpatentable over Cornaby (U.S. Patent Number 5410722) in

view of Cabrera et al., (hereinafter, "Cabrera") (U.S. Patent Number 6490666).

As per claim 18, Cornaby teaches the limitations:

"A method for managing a queue having a plurality of queue headers within a

computer system comprising the steps of:" (Figure 2 to Figure 3L)

"attaching a plurality of data structures to the plurality of queue headers, where

each data structure is attached to one of the plurality of queue headers" (Figure 2-3L

which shows a plurality of queue headers wherein each queue header includes a data

structure; Column 3 Line 64 through Column 4 Line 1, i.e., *FIG. 2 is a configuration*

consisting of four queues, 20, 21, 22, and 23, within the queue system for the purpose

of explaining the preferred embodiment of the queue system. The configuration is

comprised of queue D23 which acts as the empty queue and which initially will contain

all the task registers in the queue system; Note that task registers are data structures

attached to queue headers; and Column 4 Lines 60-64, i.e., *In view of, for simplicity in*

describing the invention, the task register in queues A 20, B21, and D23 are addressed

ordered within the queue and the task registers in queue C23 are ordered in the

sequence of insertion into the queue); and

"controlling operations of the plurality of queue headers utilizing one of a plurality

of queue function calls" (Figure 2-3L; and Column 4 Lines 2-5, i.e., *When the processor*

10 receives a task to be performed by using the queue system, the task is assigned to

the task register having the lowest address in queue D23).

Cornaby does not explicitly teach the limitation: "wherein the function calls are

configured to search the data structure of the computer system".

On the other hand, Cabrera teaches the limitation:

"wherein the function calls are configured to search the data structure of the

computer system" (Figure 3: *Headers 302 to 310* and *Data Buffers 312 to 320;* Column

2 Line 65 to Column 3 Line 5, i.e., *Buffer management structures, such as buffer*

headers and hash queue headers, are used to optimize performance of insert, search,

and data buffer use operations. Buffer headers managed in a least-recently-used queue

in accordance with a relative availability status. Buffer headers are also organized in

hash queue structures in accordance with file-based identifiers **to facilitate searching**

for requested data in the data buffer; and Column 3 Line 52-62, i.e., *Buffer headers are*

also allocated to facilitate management of the data buffer. The buffer headers are

organized in a least-recently-used (LRU) queue based on a relative availability status to

coordinate the reuse of data buffers. The buffer headers are also organized in hash

queue structure to optimize performance of insert and search operations. When a no

recall request for data from a file recorded on a secondary storage device is received in

*association with a file-based identifier, **the data buffers are searched** first before an*

attempt to retrieve the data from the secondary device).

At the time the invention was made, it would have been obvious to a person of

ordinary skill in the art to combine the method of Cornaby, which teaches queue

headers which are utilized to make function calls and to which data structures are

attached, with the method of Cabrera, which teaches searchable queued buffers so

that, in the combined method, function calls are used to search the data structures

which are attached to queue headers. One would have been motivated to do so in order

to optimize search by reducing the number of searches (Cabrera, Column 2 Lines 48-

51).

As per claim 26, Cornaby in view of Cabrera discloses the limitations:

"A computer system that employs a queuing system, the queuing system" (Figure

2-3L) comprising:

"a plurality of generic queue headers, the plurality of generic queue headers

being connected by a plurality of links" (Figure 2, *which shows a plurality of queues,*

Abstract, and Column 1 Lines 54-64); and

"a data structure attached to at least one of the plurality of generic queue

headers without reference to the plurality of links" (Figure 3A-3L), "wherein the plurality

of function calls are configured to search the data structure of the computer system"

(Cornaby, Column 4 Lines 2-5, i.e., *When the processor 10 receives a task to be*

performed by using the queue system, the task is assigned to the task register having

the lowest address in queue D23; and Cabrera, Figure 3: *Headers 302 to 310 and Data*

Buffers 312 to 320; and Cabrera, Column 2 Line 65 to Column 3 Line 5, i.e., *Buffer*

management structures, such as buffer headers and hash queue headers, are used to

optimize performance of insert, search, and data buffer use operations. Buffer headers

managed in a least-recently-used queue in accordance with a relative availability status.

Buffer headers are also organized in hash queue structures in accordance with file-

*based identifiers **to facilitate searching** for requested data in the data buffer).*

As per claim 27, Cornaby is directed to the limitation:

"comprising a plurality of queue function calls for controlling operations of the

plurality of generic queue headers" (Cornaby Abstract, i.e. "task registers").

As per claim 28, Cornaby is directed to the limitation:

"wherein the plurality of function calls includes an insert call, a search and

remove call, a search and insert call, a search only call and a peek call" (Column 8 Line

5 through Column 10 Line 8 and Figure 3A-6).

As per claim 30, Cornaby is directed to the limitation:

"wherein each generic queue header includes a pointer to a next generic queue

header, a pointer to a previous generic queue header, and a pointer to the attached

data structure" (Column 2 Lines 14-18).

As per claim 31 Cornaby is directed to the limitation:

"wherein each generic queue header includes a dynamic queue header"

(Cornaby, Abstract, i.e. *Control means is provided for dynamically assigning task*

registers to queues by controlling the addresses stored in the previous and next fields in

each header and task registers such that each of said task registers is always assigned

to a queue in the queue system).

As per claim 32, Cornaby is directed to the limitation:

"wherein each generic queue header comprises a static queue header" (Figure

2, *which shows a plurality of statue queue headers*).

Claim 37 is rejected on the same basis as claim 26.

Claim 38 and 39 are rejected on the same basis as claim 27 and 28 respectively.

Claim 41, 42, and 43 are rejected on the same basis as claim 30, 31, and 32

respectively.

12.   Claim 29 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Cornaby in view of Cabrera, and further in view of Douceur et al. (hereinafter "Douceur")

(U.S Patent Number 6041053).

Referring to claim 29, Cornaby in view of Cabrera as applied to claim 27 above

does not explicitly disclose the limitation: "a search key and a search command."

Douceur teaches the limitation: "a search key and a search command" (Douceur Abstract). Douceur is directed to a system and method classifying packets wherein each data structure includes a search key field, and one of the generic queue function calls utilizes a search command to scan each data structure attached to one of the generic queue headers until the search command matches the search key field and the operation of the one of the queue function calls is performed (Abstract of Douceur)

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to add the feature of using a search key field as taught by Douceur to the system of Cornaby in view of Cabrera as applied to claim 27 above so that, in the resultant system, each data structure would include a search key field, and one of the generic queue function calls utilizes a search command to scan each data structure attached to one of the generic queue headers until the search command matches the search key field and the operation of the one of the queue function calls is performed. One would have been motivated to do so in order to provide "a search technique capable of rapidly retrieving stored information from a data structure" (Douceur et al., Column 3 Line 54-58).

Claim 40 is rejected on the same basis as claim 29.

13.   Claim 35 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Cornaby in view of Cabrera and further in view of Peterson et al. (hereinafter

"Peterson") (U.S Patent Application Publication Number 2006/0010420).

Referring to claim 35 Cornaby in view of Cabrera does not explicitly teach the

limitation: "wherein the queuing system comprises a portion of an operation system".

Peterson teaches the limitation:

"wherein the queuing system comprises a portion of an operation system"

(Paragraph 0092, i.e., *poll the operating system even queue*).

At the time the invention was made, it would have been obvious to a person of

ordinary skill in the art to add the feature of using queues as part of an operating

system, as taught by Peterson, to the method of Cornaby in vie of Cabrera so that, in

the resultant method would, the queuing system would comprise a portion of an

operating system. One would have been motivated to do so because it is notoriously

well known in the art that queuing systems are part of modern operating system.

Claim 46 is rejected on the same basis as claim 35.

14.   Claim 36 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Cornaby in view of Cabrera and further in view of Fischer et al. (hereinafter "Fischer")

(U.S Patent Application Publication Number 2002/0163932).

Referring to claim 36 Cornaby in view of Cabrera does not explicitly teach the

limitation: "wherein the queuing system comprises a portion of a driver".

Fischer teaches the limitation: "wherein the queuing system comprises a portion of a driver" (Paragraph 0500, i.e., *queues that lie within the device driver*).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to add the feature of using a queuing system as portion of driver as taught by Fischer to the method Cornaby in view of Cabrera so that, in the resultant method, the queuing system would comprise a portion of a driver. One would have been motivated to do so because it is well known in the art that device drivers comprise internal queuing systems.

Claim 47 is rejected on the same basis as claim 36.

15.   Claim 33, 34, 44, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cornaby in view of Cabrera, and further in view of Johnson et al. (hereinafter "Johnson") (U.S. Patent Number 5133053).

Referring to claim 33 Cornaby in view of Cabrera does not explicitly teach the limitation: "each of the plurality of links is uni-directional."

Johnson teaches the limitation: "each of the plurality of links is uni-directional" (Column 10 Lines 61-64). Johnson teaches a system and method for interprocess communication queue location transparency, wherein bi-directional queues are employed to be more efficient for request and reply (Column 10 Line 61-64). Note that

bi-directional queues implemented in said manner could also function as unidirectional

queues. Unidirectional feature is already inherent in a bidirectional queuing system.

At the time the invention was made, it would have been obvious to a person of

ordinary skill in the art to combine the feature of unidirectional/bidirectional queues as

taught by Johnson et al. with the system taught Cornaby in view of Cabrera so that, in

the combined system, each of the plurality of links is uni-directional. One would have

been motivated to do so in order to "be more efficient for request and reply" (Johnson et

al, Column 10 Line 61-64).

Claim 34 is rejected on the same basis as claim 33.

Claim 44 and 45 are rejected on the same basis as claim 33 and 34 respectively.

Conclusion

16.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Contact Information

17.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Dennis Myint whose telephone number is (571) 272-

5629. The examiner can normally be reached on 8:30 AM - 5:30 PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John Breene, can be reached on (571) 272-4107. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Dennis Myint
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